



The Market for Combined Heat and Power

*American Home Product's
(AHP's)*

Experience with CHP



The Market for Combined Heat and Power

- Who is AHP?
- Background on the Pearl River Plant and its Utility Infrastructure.
- Selling Cogen to the Corporation.
- Internal Barriers to Cogen
- External Barriers to Cogen
- Closing Remarks/Summary



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Who is AHP?

- Sales -- \$15 Billion
- Employees -- 60,000
- Manufacturing Facilities -- 110
- Prescription Drugs (Largest U.S. Dispenser)
- Bio-Technology (Genetics Institute/Immunex Corp.)
- Vaccines (Wyeth-Lederle Vaccines and Pediatrics)
- Consumer Health (Whithall - Robbins)
- Animal Health (Fort Dodge)
- Agricultural Products (American Cyanamid)
- Annual Utility Costs -- \$120 Million



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The Pearl River Plant

• **Facility Statistics**

- ◆ 14 Major Buildings on Over 500 Acres
- ◆ 2,700 Employees
- ◆ Three Major Divisions -- (W-AP, W-AR, WLVP)
- ◆ Accounts for \$1.2 Billion in Sales
- ◆ Largest Integrated Facility Owned by AHP

• **Utility Infrastructure**

- ◆ Centralized Utility Operation and Steam Distribution Network
- ◆ Cogen -- Two Solar Mars (8 MW each) & 100K#/hr Deltak Boilers
- ◆ Three High Pressure Boilers Total Max Capacity of 220K#/hr
- ◆ Two Steam Topping Turbines (6.6MW Total)
- ◆ 10,000 Tons of Chilled Water Production (Electric & Steam Driven)
- ◆ Winner of 1998 AEE Energy Project of the Year



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Selling Cogen to the Corporation

- **Lower Utility Costs**
- **Increased Efficiency**
- **Provides Flexibility and Diversity of Fuels**
- **Provides Efficient Capacity for Future Growth at the Plant**



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Internal Barriers to Cogeneration

- Hurdle Rates (What's the Magic Number?)
- Capital Intensive.
- Maintenance Intensive.
- Adds Complexity.
- Not Our Core Business.



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External Barriers to Cogeneration

- **Environmental**

- ◆ North East Ozone Transport Region
- ◆ New Source Review
- ◆ Permit Special Conditions
- ◆ Regulations Tend to Favor Existing Old Base Load Plants
- ◆ No Incentive for Added Energy Efficiency
- ◆ Rules Lack Cost/Benefit Analysis (We are at the Point of Diminishing Returns)

- **The Old Utility Guard**

- ◆ Punitive Demand Charges
- ◆ Exit Fees
- ◆ Stranded Costs
- ◆ Fear of Competition



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Closing Remarks/Summary

- **Cogen Start-up January 30, 1991**
 - 97 Percent Up-Time
 - \$4.0 Million Annual Cash Flow
- **AHP Cogen Plans**
 - Andover, MA
 - Guayama, PR
 - Newbridge, Ireland
 - Catania, Italy
- **Breaking Down the Barriers**
 - Incentives for Energy Efficiency
 - Need to Educate Both Regulators and Corporate Senior Management.